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" Scire est nescire, nisi id me Scire alius sciret."

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NUTRITION AND TUBERCULOSIS.*

BY

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IT seems appropriate that " Nutrition and Tuberculosis " should be the subject of discussion in Bristol because the water of the Clifton Hotwells had a reputation for curing patients of consumption. Thus there was an early interest in this neighbourhood in tuberculosis, and as for nutrition we can read the advice that John Locke, the great philosopher, who was born at Wrington, gave to a foreigner visiting England. He said: " At Bristol see the Hot Well, St. George's Cave, where the Bristol diamonds are found, Redcliffe Church, and at Kingswood the

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coal pits." Then he went on to more important topics: "Taste there the Milford oysters, marrow puddings . . . Bristol elvers, sherry, sack (which, with sugar, is called Bristol milk) and some other wines which, perhaps, you will not taste so good in London."

Nutrition is the sum total of the processes by which the nourishment of the body is effected. These processes include the constitution of the food, both qualitative and quantitative, the adequate oxygenization of the blood and the tissues, the efficiency of the processes of digestion, absorption, assimilation, circulation and excretion, proper exercises of the body, rest and sleep, freedom from worry, anxiety and emotional disturbance, general hygiene, freedom from disease, sunlight, fresh air, and inherited characters. Chief among these is food of a constitution that provides all the elements and complexes of sufficient quantity and quality needed for normal nutrition. There may be, as Holt said, normal nutrition without normal health, but there cannot be normal health without normal nutrition.

It will be realized that the open-air school can furnish several of the nutritional factors I have mentioned. In particular it provides fresh air, sunlight, hygiene, rest, proper exercise, and some degree of freedom from worry and emotional disturbance. Moreover, as open-air schools are generally conducted arrangements are made for giving meals to the scholars which are adequate both in quantity and quality. Every child attending the open-air schools in Bristol receives breakfast, dinner and tea at the schools.

In the Report of the Chief Medical Officer of the

Board of Education (1932) the results of open-air education are summed up thus:

"To the School Medical Officer open-air education is a direct means of preventive medicine. The anæmic child improves in regard to the hæmoglobin content of the blood, the emaciated child increases in weight, enlarged glands diminish or disappear, lung troubles improve and even vanish. The individual attention given to the child by the nurse and teacher, the opportunities for bathing and personal hygiene, the adequate meals, the rest hour and the special arrangements for physical training engender and foster habits of personal cleanliness and health difficult to obtain in the crowded conditions of the ordinary day school, and in this way open-air education tends to restore the enfeebled body to a normal condition of nutrition and energy, helps to dispel many of the nervous conditions incidental to child life in towns, and serves as a most valuable adjunct in the prevention of all forms of constitutional disease including tuberculosis."

As one reads carefully through this summary one is inclined to pause and ask: How much do these advantages really depend upon the education being in the "open-air"? It seems unreasonable to confine these advantages to such children as are found by medical examination to be "delicate." At present I am told that in Bristol, at any rate, only "delicate" children can attend an open-air school. I have asked if any Act of Parliament defines what is a "delicate" child. I have looked in the Oxford Dictionary for a medical interpretation of "delicate." The nearest I can find is "easily injured," "liable to illness."

As a parent as well as a doctor I am inclined to say that every child comes under this definition, "easily injured—liable to sickness."

So far as the school-child is concerned the open-air education appears to be so designed as to secure the maximum of those nutritional factors which I have already enumerated.

Unfortunately for some children, holidays intervene with detrimental effects. In many instances these children have been selected to attend open-air schools on account of their poor state of nutrition. In the holidays they may go back to homes where the feeding, the rest and the hygiene cannot be anything like the same as they were accustomed to getting in term-time at school. The standard of nutrition of many of these children then declines and has to be built up again in each term when they come back to school.

But those factors which are mainly environmental formed the basis of yesterday's discussion.

To-day I want to say a few words on the food-factor in nutrition with special reference to the prevention and treatment of tuberculosis.

It would be a grave mistake to allow the idea to prevail that dietetic measures by themselves will prevent or cure tuberculosis.

In Great Britain there is some tendency to discount the part played by malnutrition in the production of tuberculosis. Bently, investigating the problem in young unmarried women of the clerk, assistant, domestic and dress-making classes in London, concluded that diet played little or no part in the incidence of the disease. Yet the incidence of pulmonary tuberculosis is high amongst young stable-lads. Schultze

and Zilva found that there was insufficient evidence to prove that diets deficient in fat-soluble vitamins rendered laboratory animals more susceptible to tuberculous inoculation; they found also that feeding inoculated guinea-pigs with cod-liver oil did not prolong their lives, improve their weight-curves, or curtail the extent of the disease.

Nevertheless, it would be unwise to conclude that under-feeding plays no part in determining failure of resistance to an infection which in this country is so prevalent that it is probable that every individual over the age of fourteen years has been infected with tuberculosis. Whether the infection is sufficient to produce symptoms of disease is dependent on the individual's resistance.

Guild and Green are convinced that the low economic status of the negro in the United States renders him disproportionately prone to tuberculosis. "Tuberculosis," writes Guild, "in the negro, as in any other race, is still a disease of poverty, and any significant increase in the economic status of the negro race would certainly result in a lower tuberculosis death-rate." Pitifully small income, poor housing and malnutrition, and all the concomitants of poverty combine, in Guild's opinion, against the negro.

It is the death-rate from tuberculosis which is so high in the American negro, and it is the death-rate, not the sickness incidence, which is held to depend on malnutrition. Recognizing the widespread incidence of the infection, attention should be directed to the mortality and invalidism which follow upon lowered resistance. Improvement in all the nutritional factors should be aimed at, and

foremost amongst them must be placed adequate feeding.

It was recognized long ago that in underfed patients arrest of active tuberculosis is not to be expected. The problem of diet in tuberculosis may be considered from the standpoint of some interesting and important physiological observations.

DIET IN TUBERCULOSIS.

The fever of tuberculosis does not behave like other fevers, and requires special consideration. Many cases of tuberculosis with high fever fail to show the greatly increased metabolic rate seen in other fevers. Yet in non-febrile tuberculosis there may, in severe cases, be an increase of from 20 to 36 per cent. Protein destruction is not so marked as in pneumonia or typhoid fever, and the specific dynamic action of protein is the same in tuberculosis as in normal health; whereas in other fevers where there is great protein destruction there is no increased metabolism, due to the usual specific dynamic action of protein. Thus, whilst in other fevers there is no ground for the old-fashioned idea that protein intake must be limited for fear of stimulating the fever, there are reasons for refraining from increasing the protein intake of tuberculous patients.

In tuberculosis both protein and carbohydrate will increase the volume of respiration as well as the total metabolism, an increase which is often undesirable in patients suffering from pulmonary tuberculosis.

For this reason the tuberculous patient does not need so large an increase of food as do other febrile patients (Shaffer and Coleman put the figure for other

fevers at 60 to 80 calories per kilogram daily instead of the normal 35; this means from 3,500 to 5,000 total calories daily for a sick adult). Since fat does not increase the volume of respiration to the same extent as protein and carbohydrate, the large intake of fat insisted on by the older physicians has a scientific justification.

If the important factors, rest, fresh-air and contentment, are utilized to their full extent, much more may be expected of diet in tuberculosis. Increased weight is not always accompanied by improvement, but improvement in health will always lead to a gain in weight.

Contentment is one of the factors which weighs most heavily in nutrition. When we send our patients to sanatoria, when we keep them there for months and wonder why they do not make the progress that others make, it may be this factor of contentment that is lacking and is holding them back. All these nutritional factors are of importance. We do not know which will be the more important in a particular individual. In one it may be food, in another it may be rest, or it may be freedom from anxiety and worry, or in yet another it may be merely a question of a contented mind. These are some of the very complex factors in nutrition.

The food should be simple, easily digested, well-prepared, and appetizingly served. " Easily digested ! " This is a puzzling expression. We can read in books how long it takes a dog to do various things with the food it has eaten. But do these tables of times of digestion really apply to every individual human being ? Every physiologist and every doctor knows

they do not. They may represent broad rules, but their application has to be found out afresh for every individual. The amount should be slightly more than the patient's calculated calorie requirement. For a man weighing 10 stone, who is up and about, some 3,000 calories may be necessary. The younger the patient the greater proportionately is the protein and calorie requirement. Here again caution is necessary. We take a patient's weight and surface-measurement and calculate that his or her requirement will be so many thousand calories. But the calculation is mightily inexact. There have been some very careful observations made on people with sufficient means to allow them to eat what they please: people whose size, age and work were approximately equal. The difference in their calorie requirements was simply amazing, and the observations were not made over short periods, they were long enough to show that each individual had a stable maintenance diet. We must remember, then, that all calorie requirements are average and that there is a wide range of variation in both directions.

The kind of protein matters; at least half should be first-class (animal) protein. Whilst the proportion of fat may be higher than in other diseases, not less than half the total calories should be derived from carbohydrate.

In order to ensure a sufficiency of vitamins and mineral salts the diet should include fruit, tomatoes, raw salads and green vegetables, as well as milk, butter and eggs. Milk and eggs are sometimes ordered to the exclusion of other foods, because it is easier to specify a given amount of each than to calculate the

protein and calorie value of a more varied and more desirable diet.

But in health people do not really go on day after day drinking pints and pints of milk and eating nothing but eggs. It is an easy way of calculating things, but something better has to be thought out—there must be variety in the diet. Milk has an immense value, its calcium is needed for healing, but the patient must not be discouraged and even nauseated by its monotony.

A certain amount of roughage is essential, but the exact quantity must be determined by the comfort of the individual patient. Digestive disturbances are common in any case of tuberculosis, and ill-advised "stuffing" may precipitate such disturbances as well as induce great distaste for food of any kind. The best plan is to adopt a simple, well-balanced diet with no food between meals. A quart of milk daily is sufficient for an adult, and cooked eggs are better assimilated than raw. Resting before and after meals assists the appetite and the digestion.

I doubt whether cod-liver oil should be used as a routine in every case of tuberculosis. It may sometimes prove a valuable supplement, but there is always the possibility of impairing a patient's appetite for other essential foods.

In conclusion, I should say that whilst diet by itself does not arrest tuberculosis, without an adequate diet the disease is likely to run a most unfavourable course.

I have mentioned that the Clifton Hotwells had a great reputation for the cure of consumption. Let

us take warning from the history of the Clifton Hotwells. The Clifton churchyards are full of memorials to young ladies who came here and died, not because they drank the Hotwells water, but because the disease of which they came to be cured was in such an advanced stage that not even the Hotwells water could arrest the disease. The result was that the Clifton death-rate rose so appallingly that people were scared. As a spa it failed, and for many years it was shunned as a place of residence. We must be careful how we advance any of our measures of cure as being infallible.

THE BURDEN MENTAL RESEARCH TRUST: ITS PRESENT AND FUTURE.

BY

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Chairman of the Trust and
Director of Medical Services, Stoke Park Colony.

IN January, 1933, this *Journal* recorded the foundation of the Burden Mental Research Trust by Mrs. R. G. Burden, Warden of the National Institutions for Persons requiring Care and Control. Mrs. Burden donated the sum of £10,000, and with the gift expressed her desire that it should primarily be devoted to problems underlying the causation and inheritance of normal and abnormal mentality, and that both principal and interest should be expended over a period of not less than five years. The Burden Mental Research Trust thus came into being, and is administered by a responsible Committee of Management upon which the following bodies are officially represented :—

The British Medical Association.
The Medical Research Council.
The Board of Control.
The Board of Education.
The Galton Eugenics Laboratory of the University of London.
The Royal Medico-Psychological Association.
The Central Association for Mental Welfare.

These representatives, together with Mrs. Burden, the Director of Medical Services at Stoke Park, and Dr. W. Rees Thomas as a co-opted member, form the committee, which meets periodically in offices provided by the British Medical Association, with Dr. Anderson as Secretary.

In 1933 the Committee of Administration made the following major appointments:—

Principal Investigator: J. A. Fraser Roberts, M.A., M.B., Ch.B., D.Sc., F.R.S.E.

Part-time Assistant: R. M. Norman, M.D., D.P.M.

Psychological Assistant: Ruth Griffiths, M.A., Ph.D.

and later made other minor appointments, one of the most important of which was the part-time appointment of a social worker.

The period of five years originally contemplated is now drawing to a close, and it is with great satisfaction that it can now be announced that the results of the work have been deemed so satisfactory that arrangements for the activities of the Trust to be continued indefinitely as a part of the regular work of Stoke Park Colony are under consideration.

From the outset of his researches the Principal Investigator, Dr. Fraser Roberts, has, with the full knowledge and approval of his Committee, taken a wide view of the terms of his reference, and has endeavoured to make the work of the Burden Mental Research complementary to, rather than a mere duplication of, the work of the Darwin Trust. He has also been authorized to consult, at the Trust's expense, such authorities as he from time to time has thought desirable. For their services in this capacity thanks are due to Professor R. A. Fisher, the late Dr. Shepherd Dawson, and Dr. J. G. Greenfield of the Queen's Square National Hospital for Nervous Diseases, all of

whom have visited Stoke Park, seen the actual work planned and in operation, and upon which they have advised and reported.

Bearing in mind the objectives of the Burden Trust, namely an enquiry into the causation and inheritance of mentality whether normal or abnormal, work has been carried out along three main lines with a convergent objective :—

1. A complete ascertainment of the mentality of a cross section of a reputedly mentally normal school population.

2. An analogous study of a known and certified mentally abnormal population.

3. An examination after death of the brains of individuals drawn from the classes just mentioned, with a view to ascertaining wherein, how, and why the brains of the mentally abnormal differ from those of the mentally normal.

As regards the *first* of these lines of investigation Dr. Fraser Roberts has undertaken an ascertainment of a very complete cross-section of the population. Much work has been carried out on this population and upon special portions of it, the general aim being an analysis of as many factors as possible that might be considered to have an influence on the development of mentality. Special attention has been paid to problems of backwardness and mental deficiency. The city of Bath having promised the most generous co-operation, that most suitable area was selected, and it was decided to ascertain and give a mental test to all the children whose homes were within the city boundaries on 27th July, 1934, and whose dates of birth fell between 1st September, 1921, and 31st August, 1925, inclusive. The private schools also co-operated most willingly, and apart from a small

fraction attending schools remote from Bath the ascertainment and mental testing have been made almost entirely complete. The total number of children included was 3,400. Numerous studies have been and are being made on the entire group, *e.g.* the distribution of intelligence test scores, the resemblance between brothers and sisters, the relation of intelligence to family size, and, for the great majority of the children, an analysis of mentality in relation to health, maternal age at the time of birth, and several other factors.

Important observations are being made on special sections of this child population. The lowest 8 per cent. of Binet Intelligence Quotients form a special group of 260. A median group of 4 per cent. and a top group of 4 per cent. furnish controls. It will be realized that the value for research purposes of a group that is known to be the lowest 8 per cent. of Binet test results for a complete population is very great. The conclusions will help to interpret the findings in the case of other studies that start with institutional defectives.

For the *second* main objective of the Trust there is a wealth of material at Stoke Park Colony. Even before the Burden Trust came into being the most careful records were being made of the physical, mental, and social conditions of mental defectives from many different parts of England and Wales. Since the inception of the Trust this work has been continued and as it has included every new admission there are now available upwards of 1,000 additional consecutive cases. The results to be obtained from these data will not only afford a useful comparison with the normal school population of the previous paragraph, but will furnish additional information

on such problems as the prevalence of illegitimacy and incest, the size of family, the incidence of mongolism and twins, the average longevity, social status and conditions, size of head and brain, physical proportions and the stock from which they spring.

The material accumulated by the Trust under this head alone is so large and has necessarily occupied so much time in its collection that its analysis has not yet been begun, nor indeed can it be until the completion of the very considerable amount of work envisaged in the analysis of the 3,400 children already referred to. Some portion of it is, however, already proving of value for comparison with the normal data.

As regards the *third* and last of the three main lines of the work of the Trust—a macroscopic and microscopic examination of the brains of the normal and defective sections of the population—there had been collected up to October, 1937, the brains of 123 defectives and 82 normals, and this collection is as unique as it is invaluable. All the brains are prepared, preserved, and mounted in such a way as to make all of them available for present and future study by the present or future staffs, and this material is equally available for examination or research by any who care to apply for permission to do so. One observer (Professor S. E. Whitnall, of the University of Bristol) proposes to carry out an investigation on the calcarine and visual areas of normals and defectives. The present staff itself is engaged on an examination of the size and weight of brain, convolutional pattern, embryological errors, and pathological conditions of the defective brain as compared with the normal, whilst an intensive study of the histological cortical differences between defective and normal brains is already in operation.

From these several studies it is hoped and confidently expected that much light will be thrown on the basis and genesis of mental deficiency.

There is also now being prepared an illustrative atlas which will depict, photographically, the lateral and medial surfaces of the brains of a consecutive and entirely unselected series of 120 mental defectives, together with an account of their ages, family histories, mental reactions and clinical phenomena during life, for these data are known for all the cases. As each plate will also be accompanied by similar photographic illustrations of the normal brain of individuals of as nearly as possible the like chronological age, it is hoped to make the material available to a much wider circle of trained observers.

From this necessarily brief account of the activities of the Burden Trust and the work already accomplished it should be obvious that to complete the analysis of the wealth of human and pathological material already accumulated will require a far longer period of time than that originally visualized by the terms of the Trust. As regards the Bath scheme, this will be completed within the period originally planned, but useful extensions would be possible. One would be a thorough follow-up of certain remarkable families that have been discovered in the course of the investigation of the special groups.

If the work of the Trust is continued at Stoke Park Colony it is desirable that outside survey work should remain a feature of its activities. It is to be hoped that it may be possible to secure facilities in the city of Bristol. The importance of survey work in the area has recently been emphasized by the inauguration, by the University of Bristol, of a comprehensive Social Survey of the city, under the

direction of Mr. Herbert Tout. During the past year Miss Griffiths has assisted in the work of the Child Guidance Clinic, the Trust having readily assented to a request by the city authorities that she should be allowed to undertake this work. At Stoke Park itself, of course, there will always be a wealth of material and opportunity for researches of all kinds on problems related to mental deficiency.

A special tribute must be paid to the generosity of Mrs. Burden. Her original gift, with the facilities available at Stoke Park Colony, made possible the comprehensively planned research here outlined, the results of which will be published in due course.

PUBLICATIONS OF THE TRUST.

R. G. GORDON, R. J. A. BERRY and R. M. NORMAN.	"Neurological Abnormalities: their Occurrence and Significance as illustrated by an Examination of 500 Mental Defectives." *Journ. Neurol. and Psychopath.*, 1933, xiv., liv., 97.
R. J. A. BERRY.	"The Problem of the Mental Defective." Reprinted from papers read at the Health Congress of the Royal Sanitary Institute held at Bristol in July, 1934.
R. J. A. BERRY and R. M. NORMAN.	"Cerebral Structure and Mental Function as illustrated by a study of four defectives' brains." *Journ. Neurol. and Psychopath.*, 1934, xiv., lvi., 289.
R. J. A. BERRY.	"Some of the Structural Abnormalities presented by the brains of thirty-one certified mental defectives." *Journ. Neurol. and Psychopath.*, 1935, xvi., lxi., 54.
R. M. NORMAN.	"A Case of Juvenile Amaurotic Idiocy." *Journ. Neurol. and Psychopath.*, 1935, xv., lix., 219.
R. M. NORMAN.	"Bilateral Atrophic Lobar Sclerosis following Thrombosis of the Superior Longitudinal Sinus." *Journ. Neurol. and Psychopath.* 1936, xvii., lxvi., 135.
J. A. FRASER ROBERTS, R. M. NORMAN and RUTH GRIFFITHS.	"Studies on a Child Population: I. Definition of the Sample, Method of Ascertainment and Analysis of the Results of a Group Intelligence Test." *Annals of Eugenics*, 1935, vi., 319.

J. A. FRASER ROBERTS.	"Heredity and Mental Deficiency." *British Medical Journal*, 1935, i., 413.
J. A. FRASER ROBERTS.	"Twins." *Eugenics Review*, 1935, xxvii., 25.
R. J. A. BERRY.	"Brain Size and Mentality." *British Medical Journal*, 1936, ii., 62.
R. J. A. BERRY.	"What to do with the Mental Defective in Private Practice." *Medical Press and Circular*, 1936, cxciii., No. 5089.
J. A. FRASER ROBERTS and RUTH GRIFFITHS.	"Studies on a Child Population: II. Re-tests on the Otis and Stanford-Binet Scales, with a Note on the Use of a Shortened Binet Scale." *Annals of Eugenics*, 1937, viii., 15.
J. A. FRASER ROBERTS, R. M. NORMAN and RUTH GRIFFITHS.	"Studies on a Child Population: III. Intelligence and Family Size." *Annals of Eugenics*. In the press.

In Preparation.

J. A. FRASER ROBERTS, R. M. NORMAN and RUTH GRIFFITHS.	"Studies on a Child Population: IV. On the Ascertainment of Low Stanford-Binet Intelligence Quotients."
R. M. NORMAN.	"Some Observations on the Depth and Nerve Cell Content of the supra-granular layers of the Cerebral Cortex in Normal and Mentally Defective Persons."
R. J. A. BERRY.	"An Atlas of Photographic Illustrations of 120 unselected Defective Brains, with details of the clinical, mental and neurological phenomena presented by each case during life, together with corresponding brains of a like series of normals."
J. A. FRASER ROBERTS.	"Sex-linked microphthalmia sometimes associated with mental deficiency."
R. M. NORMAN.	"An Example of Status Marmoratus of the Corpus Striatum and Cerebral Cortex."

SULPHANILAMIDE IN TREATMENT.

BY

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THE introduction of the sulphanilamide group of drugs marks a very definite advance in the treatment of streptococcal and some other infections.

Sulphanilamide is p-aminobenzene-sulphonamide: available for purchase as Prontosil album, Sulphonamide-P, Streptocide. In addition to being efficacious in infection with various types of streptococci, bacillus coli and the typhosus group it is said to be useful against meningococcal infection. Good results have also been claimed in staphylococcal and gonococcal diseases, although there is both clinical and experimental evidence that it has no influence here.

Benzyl-sulphanilamide is p-benzyl-aminobenzene-sulphonamide, Proseptasine. It is claimed to be considerably less toxic than sulphanilamide, and equally effective, at least as regards streptococci. Both drugs are supposed to act directly on the cocci, rendering their capsules more permeable, or at least less protective. The dose of either for an adult is two or three half-gram tablets by mouth thrice daily, though this is often considerably exceeded. Children tolerate proportionate doses well. It is advised that administration should be continued for at least three days after the temperature has become normal: if

this is not done there may be a return of symptoms. As a rule it is not given for more than ten days in all. Sulphates (*e.g.* magnesium sulphate) should not be given while it is being administered, for fear of inducing sulphæmoglobinæmia.

Soluble preparations, *e.g.* Prontosil soluble, Soluseptasine, are available for subcutaneous or intramuscular injection in doses of 5 to 20 c.cm. of a half-per-cent. solution. These are complex compounds which liberate sulphanilamide or benzyl-sulphanilamide as the case may be. Intravenous injection is also recommended, but not by me, for I have found that intravenous injection of soluseptasine can produce serious collapse. Intrathecal injection is not advisable. The effect of injection is no greater than that of oral administration, though the former might have value when a rapid effect is wanted: the makers advise oral administration as well. Further combinations are on trial, which it is hoped will be effective against staphylococci and pneumococci.[1]

In my own experience, chiefly with benzyl-sulphanilamide, the most frequent side-effect is a constant mild nausea throughout administration; frequency of micturition may be encountered at the beginning. If drugs of this group are given in too large doses or for too long it is generally recognized that methæmoglobinæmia or sulphæmoglobinæmia may ensue: I have not encountered these complications, which are mentioned in Professor Drew-Smythe's contribution on page 217. Some surgeons, however, maintain that the drug should be pushed until cyanosis from this cause appears, and that such a complication should not be considered a reason for stopping administration: it is difficult to follow the first argument. Mental depression,

also, is an effect that I have not noticed. Several cases have been reported of agranulocytosis following the use of sulphanilamide.

My own experience with Prontosil dates from the early months of 1936, during which year I used the drug in seventeen cases. Possibly I was too cautious: at all events I did not observe any very striking results. From the beginning of this year I have used benzylsulphanilamide in ninety odd cases. It is fair to say that until recently it was used only in the more serious infections, and the series is far too small for any statistical comparison with cases treated without this remedy. With a great variety of surgical conditions only a very large series of cases is capable of showing the actual value of such an addition, the result in so many being dominated by surgical considerations. For example, I have only used it in three cases of streptococcal meningitis, one of which survived (two are reported below): this is a smaller proportion of successes than the average of the last ten years. Again, in eleven cases of streptococcal tonsillitis the results have been good, though not strikingly better than those obtained with full doses of sodium salicylate; but tonsillitis is rarely fatal or even dangerous. In "septic sore throat" or pharyngitis the results are definitely good, and in acute infections of the nasal sinuses and middle ear I have been sufficiently impressed to adopt this as a routine remedy. From the whole series of clinical observations is derived a clear and unequivocal impression that proseptasine is well tolerated and exercises a very beneficial effect in streptococcal infections.

The prophylactic value of this drug does not seem yet to have received attention. A very large proportion of streptococcal infections are traceable to the noses

or throats of " carriers " ; and it has become recognized that adequate separation of beds is the surest method of avoiding those epidemics of tonsillitis that occur in wards (at least in nose and throat departments) as soon as the latter are allowed to become overcrowded. I have, happily, not had the opportunity of testing proseptasine in this emergency. But another method of estimating prophylactic value is available, though only convincing where patients are nursed in single rooms. A common complication of nasal sinusitis is acute tonsillitis following operation: it occurs in some 10 per cent. of cases in my own experience. A short series of cases has led me to believe that proseptasine exerts a real influence in protecting the patient against his own streptococcal complications.

Mr. F. W. Willway has been good enough to look up the cases treated with sulphanilamide in the Bristol Royal Infirmary during the past year. Unfortunately, although several good results were obtained, the notes of the eight surgical cases are not sufficiently detailed to reproduce. By the kindness of the physicians in charge, I am able to give a short account of one case of septic pharyngitis and another of streptococcal pyæmia in which these drugs were employed. Notes of a few cases illustrative of my own experience are subjoined.

Dr. B. A. Peters, in a recent publication,[2] summarizes his experiences with proseptasine. In scarlatina the mean duration of pyrexia was slightly greater in those having the drug than in the control series. The total number of complications was about the same in both, but only one-third of the " proseptasine patients " had complications in contrast to over a half of the others ; and the only two deaths

occurred in the control series. The results in erysipelas were very striking. "Since this series we have treated a further twenty cases of erysipelas with successful results, that is no death so far in about seventy cases. We have also treated, in addition to those recorded, five cases of puerperal sepsis, and in every case with a rapid and satisfactory recovery. My general impression is that in erysipelas, puerperal sepsis and other hæmolytic streptococcal infections the results are extremely striking; in scarlet fever the results are by no means so dramatic. We are still carrying out further investigations in cases of scarlet fever, but we have not yet enough cases to express any further opinion. I have treated now over three hundred cases with this drug, proseptasine, and have not yet seen any evidence of sulphæmoglobinæmia. We keep our patients on a lacto-vegetarian diet, no eggs, and no sulphur-containing salines, which may account for our favourable results in this respect."*

Sulphanilamide will not work miracles, nor will it replace surgical measures in cases where these are indicated. It is specially necessary to keep this in mind when there are localized collections of pus to be dealt with, for the effect of the drug on these is comparatively poor, though its influence on the general condition may induce a fall in temperature and a general clinical improvement that might otherwise deceive. It is particularly in generalized streptococcal infections, such as erysipelas or septicæmia,[3] that its value is apparent.

Nor do we yet know sufficient about it to adopt it as a routine measure in every case, say, of streptococcal tonsillitis. But all who use it carefully

* Personal communication.

for every severe case of streptococcal infection agree that it constitutes a new and very effective addition to our armamentarium.

Case 1.—(Dr. A. T. Todd.) *Streptococcal pyæmia.*

G. H., aged 34. *History:* In bed for one week before admission with a discharging ear and a painful right arm. On admission, high fever; temperature 104 · 4°F.; painful swelling of right arm; whitlow right thumb; pain in back and chest; diminished movement of both lungs; dullness at both bases, with bronchial breathing which is patchy in distribution. Pathological investigation as follows: swab from ear: streptococci +++. Blood culture: streptococci grown. Swab from abscess of arm: streptococci in abundance. Urine: sterile. Treatment: tablets Prontosil 2 t.d.s. by mouth. The temperature fell steadily to become normal in eight days: recovery uneventful.

Case 2.—(Dr. R. C. Clarke.) *Streptococcal pharyngitis of six days' duration.*

G. N., aged 20. Temperature on admission, 101·6°F. Pulse 108. Respirations 22. Some nasal obstruction but no discharge. Nasal swabs and throat swabs both revealed streptococci in abundance. Œdema under the eyes; crepitations at both lung bases; urine normal. She was treated with Prontosil soluble as follows: an intramuscular injection of 5 c.cm. on the day of admission, repeated on the six succeeding days, when Prontosil was discontinued. She was also given two tablets of Prontosil daily by mouth. She made a steady recovery and was discharged on the twentieth day after admission.

Case 3.—*Severe streptococcal pharyngitis* (*"hospital sore throat"*).

Male, aged 28, was admitted very ill with intense congestion of the fauces and some false membrane: temperature 103·6°F. The report on the throat swab was consistently that diphtheria bacilli were absent and streptococci present. He was given 20,000 units of anti-diphtheritic serum when he was first seen and on the second day. When the second pathological report was received 10 c.cm. of soluseptasine was given subcutaneously in the morning and again in the evening. On the third day his throat was

materially better and he was able to swallow crushed tablets of proseptasine, three tablets four times a day. By the fifth day his throat was clean and comfortable, his temperature was normal, and he made an extremely rapid recovery.

Case 4.—*Streptococcal mastoiditis with complications.*

A girl of 14 had acute left mastoiditis with nasal sinusitis : she looked pale and puffy (said to be like this always). Temperature 102°F. A mastoid operation was performed with drainage of the right maxillary antrum, but the temperature remained high. She seemed far more ill than one would expect, and on the fourth day she developed acute tonsillitis and the opposite ear began to discharge. She appeared to be putting up a very poor resistance to her streptococcal infection. Proseptasine was administered in doses of two tablets four times a day. After five days she was very much improved, and the temperature was normal. The proseptasine was stopped as she was complaining of constant nausea, but the next day her temperature rose to 100·4° and she felt ill again. The drug was therefore given for a further five days : the temperature become normal on the second of these, and she made a rapid and complete recovery.

Case 5.—*Streptococcal meningitis : death.*

A boy of 10 had mild earache for the first time, without any precedent illness. But he seemed well, eating, playing and sleeping for a week. At the end of the week he again had acute pain in the ear, without the least trace of mastoid swelling or tenderness : temperature 103·0°F. A myringotomy was performed that night : the ear was full of thick pus, which grew only staphylococci. I saw him at noon next day when he had very pronounced rigidity of the neck, positive Kernig's sign, absent knee-jerks, flexor plantar reflex ; photophobia. pupils equal and reacting, fundus veins engorged but no papillœdema ; no headache. A simple mastoid operation was carried out ; the bone was engorged, and there was a little pus in the antrum and in one or two cells ; dura appeared normal. Lumbar puncture produced faintly opalescent fluid under very high pressure : " purulent fluid, 98 per cent. of cells polymorphs, glucose trace, chlorides 0·59 per cent., no bacteria seen " (culture later showed streptococci). Ten c.cm. soluseptasine and 200 c.cm. glucose given intravenously. Next day 50 c.cm. collosol argentum was given intravenously and 10 c.cm. soluseptasine intrathecally

(this caused definite shock): the cerebrospinal fluid was purulent. On the third day he was very ill: silver and soluseptasine were given intravenously (separately); lumbar puncture yielded thick purulent fluid under lower pressure than before, and streptococci were seen in smear preparations. He died that evening. Autopsy: diffuse meningitis, operation site clean.

Case 6.—*Streptococcal meningitis: recovery.*

A boy of 15 was seen by me three and a half days after the onset of meningitis, secondary to chronic mastoiditis with suppurative labyrinthitis. The onset had been acute, with vomiting, vertigo and frontal headache; the general and mental states were good and there was no trace of Kernig's sign or of neck rigidity—which was very deceptive. But he had lost his plantar reflexes. Temperature 100·2°F. Lumbar puncture: turbid fluid under high pressure; "purulent fluid, 98 per cent. of cells polymorphs, glucose faintest trace, chlorides 0·66 per cent." Both the duration since onset and the low chloride content were unfavourable features. He was treated by a radical mastoid operation, with labyrinthectomy and drainage of the cisterna pontis via the internal auditory meatus (since with a dead vestibule the probability was that this was the route by which the meninges were infected). He had 15 c.cm. soluseptasine intramuscularly and 50 c.cm. "collosol argentum" intravenously at the operation and took sixteen proseptasine tablets daily. Cerebrospinal fluid drained freely from the wound for four days: the silver injection was repeated on the third, fourth and fifth days. The temperature became normal on the eleventh day, the proseptasine having been stopped on the tenth on account of nausea, and he is making a satisfactory convalescence.

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PRONTOSIL IN OBSTETRICS.

BY

H. J. DREW-SMYTHE, M.S., F.R.C.S., F.C.O.G.,

Obstetrician and Gynæcologist to the Bristol General Hospital; Professor of Obstetrics, University of Bristol.

My experience of Prontosil in obstetrics dates from the spring of 1936, when we first used it at Southmead Hospital for cases of puerperal fever. The results were encouraging, especially in cutting short the pyrexial period. I later used it for the same purpose at Ham Green Hospital, and afterwards at the General Hospital. The improvement in the mortality rate was not obvious, as the number of cases treated was too small for comparison with those treated before the introduction of Prontosil. The most marked improvement was in the localization of the septic process and the rapidity of the cure. These initial trials convinced me of the value of this new drug, and since then I have used it in every case of puerperal fever, and for prophylaxis in cases in which septic infection is present, or intra-uterine manipulation has been carried out. The dosage varies according to the virulence of the infection. In septicæmia 15 c.cm. of Prontosil soluble is given daily for seven days, and two tablets of Prontosil album three times a day.

The amount of Prontosil album is gradually decreased as improvement takes place. In mild cases and for prophylaxis Prontosil album alone is given. The drug is discontinued when the temperature has remained normal for forty-eight hours, but repeated if there is any recurrent rise. This recrudescence of pyrexia often occurs in these cases, but is rarely severe and soon responds to treatment.

The only ill-effects of the drug which I have encountered have been the onset of sulphæmoglobinæmia and slight mental confusion with slowing of the mental processes. After administration of prontosil over a long period methæmoglobin is formed which gives a cyanosed appearance to the whole body, and is easily seen on examination of the finger nails. This is a combination easily broken down and disappears in a few days on cessation of the drug. If, however, sulphates of any kind are administered at the same time a very stable combination, sulphæmoglobin, is formed, which shows itself in the same manner but may take weeks to clear up.

Some authorities push the drug even to the production of cyanosis, and maintain this, stating that no harm results.

The majority of the patients treated showed the presence of streptococcus hæmolyticus, either on examination of the lochia or on blood culture.

In these streptococcal infections the best results were obtained. Prontosil is not specific in its action against the streptococcus. Good results have been reported in cases of *bacillus coli* pyelitis, and also in cases

of staphylococcal breast infection. Its action is obviously not that of a bactericide, but probably renders the infecting organisms more vulnerable to attack by the natural defence forces.

As an example of the result and possible ill-effects of treatment with Prontosil I quote the following case :—

Mrs. P., primipara, aged 39, was admitted to the Bristol General Hospital with obstructed labour and failed forceps delivery. On examination the presentation was found to be a face with posterior rotation of the chin. Delivery by rotation and forceps was difficult, but eventually accomplished with the birth of a still-born child. Labour was further complicated by an adherent placenta, but this was expressed without having to resort to manual removal. On the fourth day of the puerperium she developed a septicæmia accompanied by rigors and rapid pulse. Prontosil album three tablets (gr. v) t.d.s. had been given from the first day of the puerperium and continued in this dose throughout the course of the illness. After fourteen days the temperature abated, but the patient was showing considerable cyanosis, rapid pulse and respiration, and mental dullness. The administration of Prontosil was stopped immediately. The blood showed definitely the presence of sulphæmoglobin. The cyanosis very slowly improved, but her mental condition became slightly worse, and nineteen days later she was transferred to a mental hospital with a diagnosis of toxic psychosis, from which she eventually made a complete recovery.

I do not think that one can definitely attribute the mental condition to the effects of the administration of Prontosil, except that the patient did not manifest the ordinary symptoms of puerperal mania; and I have seen mild degrees of psychosis in other cases

where Prontosil has been administered. In spite of these possible complications I am firmly convinced that in Prontosil and its derivatives we have a most potent drug at our disposal in preventing the morbidity and mortality associated with puerperal infection.

HAM GREEN HOSPITAL EXTENSIONS.

THE OPENING ADDRESS DELIVERED

ON SEPTEMBER 23RD, 1937,

BY

Professor W. W. JAMESON, M.D., F.R.C.P.,
D.P.H., Barrister-at-Law,

Professor of Public Health, University of London;
Dean of the London School of Hygiene and Tropical Medicine.

A VISIT to Bristol is for me always a delightful experience, even when the pleasure is somewhat tempered by the responsibility of having to talk for a short time to such a distinguished audience as that I see before me to-day. When I come to Bristol I feel I am entering a city with all the qualities of an old capital of the west country. Its history goes back into the distant past, and the story of its local government is so interesting that it provides teachers like myself with much material for lectures on the growth of public health administration in this country. While its early history repays investigation, its recent achievements are no less remarkable, and I believe there is no other city in the land where modern progressive local government may be studied with greater profit.

There are many directions in which you have given a lead in the field of public health: in the manner in which both University and City Council have united in their efforts to provide adequate public health services for Bristol; in your great programme

of housing, with the gradual replacement of slums by modern housing estates complete with community centres; in the development of a scheme of health centres throughout the city, centres in which both general public health work, including the work of the sanitary inspectors, and school medical work are carried on in the service of preventive medicine.

Nor have your hospitals been neglected, as to-day's ceremony affords ample evidence. I understand that a large sum of money is being expended on the enlargement and modernization of the municipal hospital, and that considerable additional accommodation is being provided for maternity cases—a wise provision, as I am satisfied that more and more women will wish to be confined elsewhere than in their own homes. And then we have this hospital where we meet to-day—a hospital which has always been something more than merely up-to-date. The new pavilion for tuberculous cases is one of the most attractive and best planned of any I have seen, and the extensions, thanks to your architect, Mr. G. C. Lawrence, are more modern in their conception than any other isolation accommodation in the country. Not only are you providing small wards for patients who for their own sakes or in the interests of other patients should be isolated, you are doing what has not so far been done in any other hospital in England — arranging for the admission of cases of smallpox to a pavilion within the grounds of the isolation hospital, and administered by the medical superintendent of the whole institution. I have long hoped that such a scheme would be adopted by a local authority, and I am glad Bristol is leading the way. Such a step could not have been taken were you not fortunate in having in Dr. Peters a medical

superintendent who is not only trusted in his own city, but is recognized by all public health workers as one of our leading authorities on infectious disease.

There are few cities able to show a record of progressive public health administration comparable with yours, and when foreign visitors come to me, as they do in considerable numbers, to ask where they should go to see a good example of English local government, I invariably direct them to the Capital of the West Country.

Though we have had general hospitals in England for a great many years, the specialized institution for the admission of cases of infectious diseases dates, for all practical purposes, only from the last century.* Prior to the coming of the fever hospital the old parish "pest-house," as it was called, was the only special provision for the treatment of the infectious sick. The first fever hospitals were sometimes known as "houses of recovery," as their original design was to promote the cure of the individual fever patient. Soon these hospitals began to be advocated on the ground of their protecting the household against the spread of infection.

It is noteworthy that smallpox had always been regarded as requiring a separate building to itself, but in the first fever hospitals all sorts of infectious cases were admitted indiscriminately to the wards. As a result doctors and nurses caught "fever" of one kind or another, while convalescent patients had what appeared to be recurrences of "fever" attacks. So serious did this situation become that people began to ask themselves whether special fever hospitals were really satisfactory, and to wonder whether fever cases

* The London Fever Hospital was founded in 1801.

should not rather be distributed throughout the wards of general hospitals. The experiment was indeed tried, but with disastrous results to the other patients and to the hospital attendants.

Gradually, however, doctors began to learn how to differentiate one type of infectious disease from another, and so it became possible to classify cases under separate headings and to arrange for cases of scarlet fever to be isolated in one set of wards, typhoid fever in another, typhus fever in yet another, and so on.

A well-known Local Government Board Report in 1882 pointed out that "even with fair separation between the several infections there remained a risk, which if small was still appreciable, that patients in these hospitals might contract fresh disease, and that instances were not wanting to show that the risk to patients, and to attendants as well, varied according to the goodness or badness of the arrangements of construction and administration of the hospital."

What was written over fifty years ago holds good to-day, and we know now that no fever hospital can be administered satisfactorily unless adequate isolation accommodation in one and two bed wards forms an important part of the ward provision of the institution. In proof of this I need only remind you that last year, apart from cases admitted for observation and cases of mixed infection, no fewer than seventeen different kinds of infectious disease were dealt with in Ham Green Hospital.

We have long since ceased to believe that the main function of a fever hospital is to check the spread of epidemic disease in a community. Recent methods of immunizing individuals against specific infectious diseases are much more likely to do that. The modern conception of an isolation hospital is a place where

infectious patients may receive the most up-to-date treatment at the hands of persons who are skilled, through long experience, in the care of such cases. Its aim is rather the saving of life and the prevention of the crippling after-effects of infectious disease.

With its admirable record of hospital provision and its reputation as a great centre of medical education Bristol might well be expected to see that its fever hospital premises are second to none in the kingdom.

It is of much interest to me to learn that by arrangement with the Somerset County Council the needs of an adjoining portion of that county will in future be met by this institution. This is yet another instance of the enlightened use of public health powers. The unnecessary multiplication of fever hospitals is to be avoided at all costs. Small institutions are only too often expensive and inefficient, and where possible one large hospital should be made to serve the requirements of a considerable aggregation of population, whether living within the same local government area or not. I hope many more authorities will follow the lead given in this matter by Bristol and Somerset.

There is only one more subject upon which I should like to touch. Many isolation hospitals are built upon very restricted sites, where even the ground necessary for extension is difficult to find. Whoever was responsible for acquiring this large estate as a hospital area for this city must have had great foresight. Not only have you ample room for all the buildings you can possibly require in the future, you have all the land you need for the production of milk and eggs and the growing of fruit and vegetables. It is just as important that sick people and persons convalescent after infectious disease should have the best possible diet

as that they should be housed in good premises and looked after by a competent staff.

So far I have referred only to hospitals provided and maintained by the Bristol City Council. This city is fortunate in having two great voluntary general hospitals, which for many years have given of their best to the people of Bristol and to the promotion of medical education. I am delighted to hear that a close working arrangement is to be established between these two institutions. In future we can look forward to a real scheme of co-operation between the municipal hospitals and the voluntary hospitals of this city—each group developing freely in accordance with a well-conceived plan. This was the intention of the great Local Government Act of 1929, and I have no doubt that here, as in other ways I have indicated, Bristol will again give a lead to other local authorities throughout the country.

Reviews of Books

What is Osteopathy? By C. Hill, M.D., D.P.H., and H. A. Clegg, M.B., M.R.C.P. Pp. xix., 217. Illustrated. London: J. M. Dent & Sons Ltd. 1937. Price 7s. 6d.—As the title suggests, this book is written for the non-medical public, and its purpose is to examine the theory and practice of osteopathy, showing that if this cult be right then medicine as generally understood is wrong. Mr. H. G. Wells, strangely called in to write a preface, and seemingly on the strength of having been at once cured of a lameness, "after months of fumbling on the part of normal medical men," by Sir Herbert Barker, says that "the book tells the story of osteopathy calmly, but with a twinkle of amusement that sometimes gives place to a twinkle of indignation. Plainly osteopathy, considered as a system of medicine or as anything more than the manipulative side of surgery, is impudent balderdash." And Dr. Morris Fishbein has put the matter in a nutshell in his terse statement that "osteopathy of to-day is essentially an attempt to enter the practice of medicine by the back door." An account of the life and practice of the American Andrew T. Still, the "father of osteopathy," is given first. Then follow copious verbatim extracts from the investigation conducted by the select committee of the House of Lords in 1935, when the osteopaths sought State recognition and registration. Osteopathy was defined by the promoters of the Bill as "that system of the healing art which places the chief emphasis on the integrity of the body mechanism as being the most important single factor to maintain the well-being of the organism in health and disease." This claim is analysed and illustrated. But "the committee found on the evidence before them that the claim of the osteopaths to treat all diseases as set out in the Bill had not been established, and that it would not be proper for Parliament to recognize osteopathic practitioners as qualified on a similar footing to that of registered medical practitioners, to diagnose and treat all human complaints." The committee recommended that

the Bill should not be further proceeded with. It may be pointed out that manipulation of the spinal column, that is chiropraxy, appears to play a large part in osteopathic treatments, which probably accounts for the confusion of the two cults in the lay mind. The chiropractors (estimated to number 16,000 in the United States, 1932) ascribe all diseases, from tabes or typhoid to diabetes or diphtheria, to " subluxations " of the vertebræ alone. The osteopaths (7,650 in number) consider other joints as well. All these practitioners, together with Christian Science Healers (10,000), are " state registered " in the U.S.A. The authors of this book emphasize that they do not deny that osteopathic manipulation may do good in certain conditions, but conditions which respond to treatment at the skilled hands of the manipulative surgeon and the bone-setter; and if the latter would only restrict his therapeutic claims to such special conditions, without erecting a new theory of health and disease on unproven hypotheses, the medical profession would have no excuse for not listening to him. No more convincing indictment of a charlatanism has been framed. Finally, the authors briefly indicate how to qualify to become a recognized specialist in bone-setting, should a narrow path be preferred in our craft.

Skin Diseases in General Practice. Third Edition. By H. HALDIN-DAVIS, D.M., F.R.C.P. Pp. xiii., 400. Illustrated. London: Oxford University Press (Humphrey Milford). 1937. Price 17s. 6d.—The third edition of this text-book maintains its reputation as a sound practical work on the diagnosis and treatment of the common diseases of the skin. The arrangement on a basis of distribution rather than according to ætiology is probably appreciated by the practitioner who wishes to look up rapidly the differential diagnosis of an eruption which he is called upon to treat, while a useful chapter on " Modern Methods of Treatment " will also be found of interest. One is rather surprised to find no mention of the pioneer work of Whitfield in the discussion of the phenomenon of auto-sensitization in eczema, and the author's opinion that wet dressings and lotions are not indicated in acute eczematous eruptions is at variance with the practice of most dermatologists. There are seven coloured plates and ninety black and white illustrations. This edition, which is well written and well produced, should be as popular as its predecessors.

Diseases of the Eye. By E. WOLFF, M.B., B.S., F.R.C.S. Pp. xi., 234. Illustrated. London: Cassell & Co. Ltd. 1937. Price 15s.—Intended for the use of students and practitioners, this new guide to ophthalmology should make a special appeal to the beginner in the subject. With the aid of annotated anatomical drawings and a large number of other illustrations, the author has succeeded in presenting his subject in a way which should simplify considerably the many problems met with by the inexperienced. The illustrations are, in fact, an outstanding feature of the book, of high quality and excellently reproduced. The large pages (of quarto size) enable them to be shown to advantage and to be placed conveniently in relation to the text. In addition to chapters on the diseases affecting the various structures of the eye, the volume contains sections dealing with ophthalmoscopy, the field of vision, errors of refraction, congenital anomalies, injuries, the eye complications of certain general diseases and a representative selection of the more usual operations. The descriptions of clinical methods and of the subject in its various aspects are clearly written, the teaching is up to date, and the lines of treatment laid down are in most instances modern and orthodox. Although the amount of space devoted to descriptions of unusual conditions is rather more than one would expect in an elementary text-book, adequate attention is paid to the commoner and more important ailments. This is a distinctly attractive text-book, and can be cordially recommended to those for whom it has been written.

Material Medica for Nurses. Fourth Edition. By A. M. CRAWFORD, M.D., F.R.F.P.S.G. Pp. viii., 105. London: H. K. Lewis & Co. 1937. Price 3s. 6d.—This handy little guide for nurses has undergone few changes in the fourth edition. A few paragraphs on local and general anæsthetics have been added. There is a new chapter on vitamins, in which the complexity of B is alluded to, but no reference is made to any variations in the constitution of D. However, the information is probably sufficient for nurses. Another new chapter deals with the sugars. This seems to give less information than nurses might need. The rapid conversion of sucrose into dextrose in the body is not mentioned. The description of the conditions for which glucose is commonly administered omits all mention of surgical and operative emergencies. No reference is made to the use of sugars in artificial feeding of infants, a matter of great interest to

nurses—in fact, *lactose* is dismissed as being "used to give bulk to other powders of minute dosage." *Hiatus valde deflendus!*

A Criticism of Nursing Education with Suggestions for Constructive Reform. By H. BALME, M.B., F.R.C.S., D.P.H. Pp. viii., 73. London: Oxford University Press (Humphrey Milford). 1937. Price 2s. 6d.—This book certainly lets a breath of fresh air into the subject of the education of the nurse in hospital. Every suggestion made is practical and possible, and would if carried out honestly enlist better educated girls or women for the service. The heavy work which a probationer undergoes for the first year of her hospital life at present would not be hard if given to attendants who are used to such work. The idea of a probationer being a student for one year in a nursing college—paying fees for instruction and being carefully taught—would certainly be an innovation which would surprise the kind of sister so well described in Chapter IV, page 22. The Ministry of Health is an open-minded body; it would be necessary to enlist its help and *Authority* before such a scheme as that outlined in Chapter VII could be carried out. Anyone interested in increasing the number of applicants for hospital training of a more educated class would do well to read and digest the ideas conveyed by the writer. The unnatural discipline maintained in the present-day schools of nursing is unnecessary; if made lighter it would undoubtedly make the high-spirited woman of to-day more ready to devote herself to the truly interesting and absorbing career of a trained hospital nurse.

Editorial Notes

Central Health Clinic and Ham Green Extensions.

THE opening of the Central Health Clinic on July 9th by Sir Farquhar Buzzard, Regius Professor of Medicine at Oxford, and of the Ham Green Hospital Extensions on September 23rd by Professor W. W. Jameson, mark two notable additions to the equipment of the health services of our city. In the Central Health Clinic accommodation is provided for doctors, health visitors, sanitary inspectors and clerks. Infant welfare, ante-natal and dental clinics are established there. The tuberculosis officer will conduct the main work of the tuberculosis dispensary in the central clinic; it will be the headquarters of school medical inspection and of certain specialist medical services. There will also be facilities for general health education. The building is designed with a view to rapid and easy inter-communication between the various departments, and there can be no doubt that it will be of the greatest value to the inhabitants of Bristol. It is, in fact, one of the first steps towards the realization of the Health Campaign launched by the Prime Minister in London on Thursday, 30th September. Unfortunately the building does not give the impression of being designed in accordance with the most modern notions, and it is questionable whether the internal planning of rooms and corridors will prove entirely satisfactory. There is something old-fashioned about the general

conception of the building which becomes very noticeable when contrasted with the extensions at Ham Green Hospital. Perhaps it would be more correct to say "when contrasted with the 'cubicle type' ward blocks intended for the treatment of general infectious cases when small-pox is absent." These blocks with their wide verandahs are, without question, the best examples of ward construction in Bristol, or perhaps in Great Britain as a whole. The Health Committee, the Medical Officer of Health, and the Architect deserve the highest praise for the excellence of these blocks. The 14-bed block which is to be kept always ready for the reception of small-pox cases only is a poor affair in comparison, for in this block the cubicle system has not been adopted. The wards are well-built, pleasantly decorated and have a homely, antiquated appearance. Professor Jameson's address (see p. 221) was so flattering to the spirit of progress existing in Bristol that it is hard to resist the temptation to speculate on the relative responsibilities of our own Health Committee and the Ministry of Health in the planning of the Central Health Clinic and the Ham Green extensions.

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Dr. Beddoes and the Physical Fitness Campaign.

THE modern devotion to the problem of keeping fit is not quite so modern as is popularly supposed. It puzzled Dr. Beddoes, the famous director of the Clifton Pneumatic Institute. He expressed his views in the uncompromising manner that lost him his professional chair at Oxford. "Task-exercises, in my opinion, hold the same proportion to health as the castigations of penitents to piety and virtue." Another explosion of

his reads, "The dumb-bell I consider as a miserable substitute for running, digging, working with tools and those other exertions that engage the mind, while they put the limbs into motion. Curious sports, such as archery, have not a permanent interest." Evidently there were irreverent spirits abroad even before Geoffrey Gorer wrote in *Africa Dances:* "The whole of English life in West Africa revolves very properly round the problem of keeping fit. It is, of course, axiomatic that you can only keep fit on pieces of ground specially devoted to that end; there is no virtue in movement over soil which is also employed for utilitarian purposes." But Milton, as usual, finds the stinging word to combine with his rare wisdom when he refers scornfully to the "empty and unrecruitable colonels of twenty men in a company" whom he regarded as useless for the education of the young in healthy exercises. His view was that "in those vernal seasons of the year when the air is calm and pleasant, it were an injury and sullenness against nature, not to go out and see her riches, and partake in her rejoicing with heaven and earth." Even Mr. Osbert Sitwell would be hard pressed to improve on that phrase, "Empty and unrecruitable colonels"!

The Medical Library of the University of Bristol,

WITH WHICH IS INCORPORATED

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the list in July, 1937.

September, 1937.

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Dr. J. D. A. Gray (2)	1	,,
Professor E. W. Hey Groves (3)	7	volumes.
Michell Clarke Fund (4)	1	volume.
University of Buenos Aires (5)	1	,,
Miss D. Anne Norburn (6)	1	,,
Dr. P. Watson-Williams (7)	2	volumes.

Unbound periodicals have also been received from Professor E. W. Hey Groves, Professor C. Bruce Perry, Dr. J. Odery Symes, and Mr. P. Watson-Williams.

THE ONE HUNDRED AND SIXTIETH LIST OF BOOKS.

The figures in round brackets refer to the figures after the names of the donors. The books to which no such figures have been attached have either been bought from the Library Fund or received through the *Journal*.

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Publications Received

From Baillière, Tindall & Cox.:

Modern Treatment in General Practice. Vol. III. Edited by Cecil P. G. Wakeley, D.Sc., F.R.C.S., F.R.S.E. Price 10s. 6d.

Minor Maladies and their Treatment. By Leonard Williams, M.D. 7th Edition. Price 10s. 6d.

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Post-Graduate Surgery. Vol. III. Edited by Rodney Maingot, F.R.C.S., Price 70s.

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The Diet Book. By Marguerite Requa Rea. 3rd Edition. Price 6s.

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From SWEDEN ROYAL MEDICAL BOARD:

Investigations into Questions of Social Hygiene in the Counties of Västerbotten and Norrbotten, Sweden.

From JOHN WRIGHT & SONS LTD.:

Synopsis of Obstetrics and Gynæcology. By ALECK W. BOURNE, M.A., M.B., B.Ch., F.R.C.S., F.C.O.G. 7th Edition. Price 15s.

British Journal of Surgery. Vol. XXV. No. 97. Price 12s. 6d.

The Elements of Medical Treatment. By ROBERT HUTCHISON, M.B., LL.D., D.Sc., F.R.C.P. 3rd Edition. Price 5s.

Treatment of some Chronic and Incurable Diseases. By A. T. TODD, O.B.E., M.B., M.R.C.P. Price 10s.

Local Medical Notes

EXAMINATION RESULTS.

University of Bristol.—Students of the University have recently passed the following examinations:—

M.B., Ch.B.—*Supplementary First Examination. Pass*: J. H. Challenger, Margaret J. Griffith, Eileen M. Herbert, J. C. O. Iwenofu, A. R. B. McGillycuddy, A. J. F. Saxton, W. H. N. Scawin, W. H. E. Turnbull, Jean Wallace.

B.D.S.—*Supplementary First Examination. Pass:* R. M. Sharp.

L.D.S.—*Supplementary First Examination. Pass:* V. T. Scard.

Conjoint Board.—M.R.C.S., L.R.C.P. *Pass: In Anatomy:* B. C. E. Aldous. *In Pharmacology and Materia Medica:* Mary R. More. *In Medicine and Surgery:* A. M. Spencer.* *In Pathology, Medicine and Midwifery:* K. G.

* Qualified.

Bergin. *In Midwifery:* R. L. J. S. Derham, Rotha H. Dalton, Mabel L. Glenny, Ruth Jones. *In Pathology and Midwifery:* Myrtle M. Hutchins. *In Pathology:* P. W. M. Martin, Dorothy E. Dickinson, Margaret E. Morgan, Margaret E. M. Slater, R. D. Cæsar. *In Surgery:* Ursula W. Wood.

APPOINTMENT.

A. W. Falconer, C.B.E., D.S.O., M.D. (Aberdeen), M.R.C.P. (Lond.), Professor of Medicine at Cape Town University, has been appointed Vice-Chancellor of that University. Professor Falconer was House Physician at the Bristol Royal Infirmary in 1907.